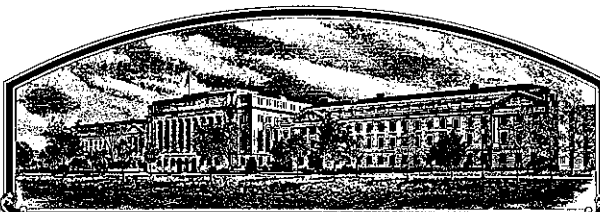


No.



8300030

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

**Illinois Agricultural Experiment Station
and ARS-USDA**

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, (THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS SEED OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS PERMITTED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

(**Waived*, except that this waiver shall not apply to breeder seed, foundation seed, labeling requirements, and blending limitations.)

WHEAT 'Scotty'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington this 31st day of January in the year of our Lord one thousand nine hundred and eighty-six.

Attest:

Kenneth H. Evans
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

[Signature]
Acting Secretary of Agriculture

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION

FORM APPROVED
OMB NO. 40-R3822

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: See Reverse.

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

1a. TEMPORARY DESIGNATION OF VARIETY IL. 72-2218-1		1b. VARIETY NAME Scotty		FOR OFFICIAL USE ONLY PV NUMBER 8300039	
2. KIND NAME Wheat		3. GENUS AND SPECIES NAME <u>Triticum aestivum</u>		FILING DATE 12/30/82	TIME 8:30 A.M. XXX
4. FAMILY NAME (BOTANICAL) Gramineae		5. DATE OF DETERMINATION January 1, 1982		FEE RECEIVED \$ 1,000	DATE 12/30/82
6. NAME OF APPLICANT(S) Director, Illinois Agricultural Experiment Station and ARS-USDA		7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) University of Illinois Urbana, IL 61801		8. TELEPHONE AREA CODE AND NUMBER (217) 333-0240	
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (Corporation, partnership, association, etc.) Agricultural Experiment Station		10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION Established by Federal Law (Hatch Act)		11. DATE OF INCORPORATION 1889	
12. NAME AND MAILING ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS: Dr. R. G. Cragle DONALD A. HOLT University of Illinois Agricultural Experiment Station Urbana, IL 61801					

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

- ☒ 13A. Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)
- ☒ 13B. Exhibit B, Novelty Statement.
- ☒ 13C. Exhibit C, Objective Description of the Variety (Request form from Plant Variety Protection Office.)
- ☒ 13D. Exhibit D, Additional Description of the Variety.

14a. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(a). (If "Yes," answer 14B and 14C below.) ☒ YES ☐ NO

14b. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☒ YES ☐ NO

14c. IF "YES," TO 14B, HOW MANY GENERATIONS OF PRODUCTION BEYOND BREEDER SEED?
☒ FOUNDATION ☒ REGISTERED ☒ CERTIFIED

15a. DID THE APPLICANT(S) FILE FOR PROTECTION OF THIS VARIETY IN OTHER COUNTRIES? ☐ YES ☒ NO (If "Yes," give name of countries and dates.)

15b. HAVE RIGHTS BEEN GRANTED THIS VARIETY IN OTHER COUNTRIES? ☐ YES ☒ NO (If "Yes," give name of countries and dates.)

16. DOES THE APPLICANT(S) AGREE TO THE PUBLICATION OF HIS/HER (THEIR) NAME(S) AND ADDRESS IN THE OFFICIAL JOURNAL? ☒ YES ☐ NO

17. The applicant(s) declare(s) that a viable sample of basic seed of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

(DATE)

(SIGNATURE OF APPLICANT)

(DATE)

(SIGNATURE OF APPLICANT)

13A. Exhibit A, Origin and Breeding History of Scotty.

Scotty (PI 469294) was developed by the Illinois Agricultural Experiment Station in cooperation with ARS, U.S. Department of Agriculture. Scotty resulted from the cross of a Virginia line designated Va. 66-54-10 with Arthur.

Scotty was developed by a combination of the bulk and pedigreed method with the F_1 and F_2 generations grown in bulk without selection and with plant selection in the F_3 and F_4 generation. Breeders' seed originated from the increase of a single head row selected in the F_5 generation.

Scotty was tested for performance in nursery trials in Illinois from 1974 to 1982, in drill plot trials in Illinois from 1978 to 1982, and in the Uniform Eastern Soft Red Winter Wheat Performance Nursery in 1979 to 1982. Soft wheat quality was evaluated from the Uniform Eastern Soft Red Winter Wheat Performance Nursery grown in 1979 to 1982. It was in disease nurseries at Urbana, Illinois from 1972 to 1982.

Scotty has been true breeding during our observations in developing breeders' seed.

Wheat Application No. 8300030, "Scotty"

ADDENDUM A

Scotty may exhibit up to four-tenths of one percent (.4%) of fully awned heads and up to four-tenths of one percent (.4%) of plants that are 10 to 12 cm. taller than normal Scotty plants. These variants were in the variety when it was released but were not initially described.

Milling, baking and protein data for Scotty:

Scotty was evaluated for soft wheat milling and baking quality by the United States Department of Agriculture Soft Wheat Quality Lab at Wooster, Ohio. Scores for the year 1979-1982 were as follows:

<u>Year</u>	<u>Milling Score</u>	<u>Baking Score</u>	<u>Protein Percentage</u>
1979	98.3	113.5	10.7
1980	98.4	108.3	10.8
1981	94.1	101.8	11.8
1982	<u>95.3</u>	<u>98.0</u>	<u>11.9</u>
Mean	96.5	105.4	11.3

Milling or baking scores above 90 corresponds to a "good" rating so the data clearly show that Scotty is quite satisfactory both for milling and baking qualities.

13B. Exhibit B, Novelty Statement.

Scotty is a beardless soft red winter wheat variety with good milling and baking quality and resistance to diseases that are prevalent in Illinois.

Scotty is most similar to Arthur, one of its parents. It can be distinguished from Arthur in the following ways:

- 1) Scotty is very resistant to prevalent races of powdery mildew while Arthur is susceptible. Scotty is also more resistant to powdery mildew than several other beardless soft wheat varieties of similar maturity, including Arthur 71, Abe, Oasis, Roland, Caldwell, and Pike.
- 2) Scotty is moderately resistant to prevalent races of leaf rust whereas Arthur is susceptible. Under field conditions at Urbana, Illinois, Scotty has shown resistance similar to Caldwell but not equal to Auburn. It is more resistant to leaf rust than Abe, Roland, Pike, Arthur 71, and Oasis.
- 3) Scotty has purple colored coleoptiles whereas the coleoptiles of Arthur are white.
- 4) The stems of Scotty, particularly the peduncle, will in most seasons exhibit a distinct purple color, whereas the stems of Arthur are white.

The stem color of Scotty also distinguishes it from varieties Abe, Arthur 71, Oasis, Roland, and Pike. The color difference is especially visible approximately one week prior to maturity. The stem color of Scotty has appeared similar to that of Tyler in our observations.

Table 1. Yield and Test Weight of Several Winter Wheat Varieties Grown in Drill Plots at Urbana, Illinois. 1978-81.

	1978	1979	1980	1981	4 yr. ave. 1978-81	2 yr. ave. 1980-81	Test Wt.
							2 yr. ave. 1980-81
Scotty	76.1	97.6	103.4	99.9	94.2	101.7	59.6
Abe	75.1	86.8	88.7	55.0	76.4	71.8	59.9
Hart	77.6	94.5	92.0	74.1	84.6	83.0	59.7
Roland	74.8	92.2	88.2	73.7	82.2	81.0	58.8
Pike	--	--	87.2	74.8	--	81.0	59.2
Caldwell	--	--	95.3	83.8	--	89.6	59.7

Table 2. Yield and Test Weight of Several Winter Wheat Varieties, Grown in Drill Plots at Brownstown, Illinois. 1980-81.

	Yield Bu./Acre			Test Wt.
	1980	1981	2 yr. ave.	2 yr. ave.
Scotty	77.9	86.0	82.0	57.0
Abe	67.9	67.0	67.5	57.5
Hart	74.0	82.0	78.0	57.5
Roland	70.0	74.0	72.0	56.0
Pike	78.8	72.0	75.4	57.5

Table 3. Yield and Test Weight of Several Winter Wheat Varieties Grown in Drill Plots at DeKalb, Illinois. 1980-81.

	Yield Bu./Acre			Test Wt.
	1980	1981	2 yr. ave.	2 yr. ave.
Scotty	72.9	56.5	64.7	55.0
Abe	69.0	54.2	61.6	57.8
Hart	70.9	57.1	64.0	57.8
Roland	61.5	53.9	57.6	56.5
Pike	74.2	55.9	65.0	56.0

Table 4. Yield (Bu/A) of Several Winter Wheat Varieties Grown in Nursery Plots at Urbana, Brownstown, and DeKalb, Illinois. 1979-81.

	Urbana		Brownstown		DeKalb	
	3 yr. ave. 1979-81	2 yr. ave. 1980-81	3 yr. ave. 1979-81	2 yr. ave. 1980-81	3 yr. ave. 1979-81	2 yr. ave. 1980-81
Scotty	70.1	66.6	60.1	63.2	63.2	63.7
Abe	54.3	55.3	56.5	56.5	57.5	58.2
Hart	54.8	54.0	58.4	57.1	63.0	64.9
Roland	64.7	60.9	62.5	66.5	58.8	58.0
Pike	--	61.7	--	62.0	--	58.7
Caldwell	--	63.7	--	67.1	--	64.4

Table 5. Yield and Test Weight of Scotty, Oasis, and Caldwell Grown in the Uniform Eastern Soft Wheat Nursery. 1979-81.

	Yield Bu./Acre				Test wt. lbs/bu.
	1979 (24) ¹	1980 (17) ¹	1981 (20) ¹	Ave. (61) ²	(61) ²
Scotty	63	68	59	63	58
Caldwell	55	66	56	59	57
Oasis	55	54	52	54	59
Ave. of Test ³	53	61	55	56	58

¹Number of locations.²Location x years.³28 entries in 1979; 33 entries in 1980 and 1981.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Wheat)

OBJECTIVE DESCRIPTION OF VARIETY
WHEAT (TRITICUM SPP.)

INSTRUCTIONS: See Reverse.

NAME OF APPLICANT(S) Director, Illinois Agricultural Experiment Station ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) University of Illinois Urbana, IL 61801	FOR OFFICIAL USE ONLY PVPO NUMBER 8300030 VARIETY NAME OR TEMPORARY DESIGNATION Scotty
---	--

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g., or) when number is either 99 or less or 9 or less.

1. KIND:

1 = COMMON 2 = DURUM 3 = EMMER 4 = SPELT 5 = POLISH 6 = POULARD 7 = CLUB

2. TYPE:

1 = SPRING 2 = WINTER 3 = OTHER (Specify) _____ 1 = SOFT 2 = HARD 3 = OTHER (Specify) _____

1 = WHITE 2 = RED 3 = OTHER (Specify) _____

3. SEASON - NUMBER OF DAYS FROM EMERGENCE TO:

FIRST FLOWERING LAST FLOWERING

4. MATURITY (50% Flowering):

NO. OF DAYS EARLIER THAN 1 = ARTHUR 2 = SCOUT 3 = CHRIS
 NO. OF DAYS LATER THAN 4 = LEMHI 5 = NUGAINES 6 = LEEDS

5. PLANT HEIGHT (From soil level to top of head):

CM. HIGH
 CM. TALLER THAN
 CM. SHORTER THAN 1 = ARTHUR 2 = SCOUT 3 = CHRIS
4 = LEMHI 5 = NUGAINES 6 = LEEDS

6. PLANT COLOR AT BOOTING (See reverse):

1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN

7. ANTH COLOR:

1 = YELLOW 2 = PURPLE

8. STEM:

Anthocyanin: 1 = ABSENT 2 = PRESENT Waxy bloom: 1 = ABSENT 2 = PRESENT
 Hairiness of last internode of rachis: 1 = ABSENT 2 = PRESENT Internodes: 1 = HOLLOW 2 = SOLID
 NO. OF NODES (Originating from node above ground) CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW

9. AURICLES:

Anthocyanin: 1 = ABSENT 2 = PRESENT Hairiness: 1 = ABSENT 2 = PRESENT

10. LEAF:

Flag leaf at booting stage: 1 = ERECT 2 = RECURVED 3 = OTHER (Specify): _____ Flag leaf: 1 = NOT TWISTED 2 = TWISTED
 Hairs of first leaf sheath: 1 = ABSENT 2 = PRESENT Waxy bloom of flag leaf sheath: 1 = ABSENT 2 = PRESENT
 MM. LEAF WIDTH (First leaf below flag leaf) CM. LEAF LENGTH (First leaf below flag leaf):

11. HEAD:

Density: 1 = LAX 2 = DENSE Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE
4 = OTHER (Specify) _____

Awnedness: 1 = AWNLESS 2 = APICALLY AWNLETED 3 = AWNLETED 4 = AWNED

Color at maturity: 1 = WHITE 2 = YELLOW 3 = PINK 4 = RED
5 = BROWN 6 = BLACK 7 = OTHER (Specify): _____

CM. LENGTH MM. WIDTH

12. GLUMES AT MATURITY:

Length: 1 = SHORT (CA. 7 mm.) 2 = MEDIUM (CA. 8 mm.)
3 = LONG (CA. 9 mm.) Width: 1 = NARROW (CA. 3 mm.) 2 = MEDIUM (CA. 3.5 mm.)
3 = WIDE (CA. 4 mm.)

Shoulder shape: 1 = WANTING 2 = OBLIQUE 3 = ROUNDED
4 = SQUARE 5 = ELEVATED 6 = APICULATE Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE

13. COLEOPTILE COLOR:

1 = WHITE 2 = RED 3 = PURPLE

14. SEEDLING ANTHOCYANIN:

1 = ABSENT 2 = PRESENT

15. JUVENILE PLANT GROWTH HABIT:

1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT

16. SEED:

Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL Cheek: 1 = ROUNDED 2 = ANGULAR

Brush: 1 = SHORT 2 = MEDIUM 3 = LONG Brush: 1 = NOT COLLARED 2 = COLLARED

Phenol reaction (See instructions): 1 = IVORY 2 = FAWN 3 = LT. BROWN
4 = BROWN 5 = BLACK

Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER (Specify) _____

MM. LENGTH MM. WIDTH GM. PER 1000 SEEDS

17. SEED CREASE:

Width: 1 = 60% OR LESS OF KERNEL 'WINOKA'
2 = 80% OR LESS OF KERNEL 'CHRIS'
3 = NEARLY AS WIDE AS KERNEL 'LEMHI'

Depth: 1 = 20% OR LESS OF KERNEL 'SCOUT'
2 = 35% OR LESS OF KERNEL 'CHRIS'
3 = 50% OR LESS OF KERNEL 'LEMHI'

18. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

STEM RUST (Races) LEAF RUST (Races) STRIPE RUST (Races) LOOSE SMUT

POWDERY MILDEW BUNT OTHER (Specify) Soil Borne Mosaic

19. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

SAWFLY APHID (Bydv.) GREEN BUG CEREAL LEAF BEETLE

OTHER (Specify) _____ HESSIAN FLY RACES: GP A B C
 D E F G

20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	Tyler	Seed size	Arthur
Leaf size	Arthur	Seed shape	Arthur
Leaf color	Tyler	Coleoptile elongation	Arthur
Leaf carriage	Arthur	Seedling pigmentation	Tyler

INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

- (a) L.W. Briggie and L. P. Reitz, 1963, Classification of Triticum Species and Wheat Varieties Grown in the United States, Technical Bulletin 1278, United States Department of Agriculture.
- (b) W.E. Walls, 1965, A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity, contribution No. 28 to the handbook of seed testing prepared by the Association of Official Seed Analysts. (See attachment.)

LEAF COLOR: Nickerson's or any recognized color fan should be used to determine the leaf color of the described variety.

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13D. Exhibit D, Description of Additional Characteristics

Scotty is an awnleted variety with maturity similar to Roland and only one to two days later than Arthur. It is approximately 3 cm shorter than Arthur and has better lodging resistance. Winter hardiness level is similar to that of Arthur.

The kernel size of Scotty is similar to that of Arthur, but its weight per bushel is usually one or two pounds lower. The USDA Soft Wheat Quality Lab rated Scotty good for milling and excellent for baking quality.

Scotty has excellent resistance to powdery mildew and stem rust, and moderate resistance to prevalent races of leaf rust. It has the H₃ gene for resistance to Hessian fly and is resistant to Soil Borne Mosaic.

Scotty has had an excellent yield record in Illinois and in other states in the soft red winter wheat region. Yield and test weight data for Scotty and several other varieties at several locations in Illinois and in the Uniform Eastern Soft Wheat Nursery are presented in Tables 1-5.

PLANT VARIETY PROTECTION OFFICE

Gentlemen:

Subject: Application No. 8300030
'Scotty' Wheat

As provided in section 83(a) of the Plant Variety Protection Act, 7 U.S.C. 2321, we request that the Certificate on the above variety be issued with a notation on the Certificate that the right to exclude others from selling, offering for sale, reproducing, importing or exporting the variety covered by this Certificate, or using it in producing a hybrid or different variety is waived, except that this waiver shall not apply to breeders seed, foundation seed, labeling requirements, and blending limitations.

It has been agreed that the Certificate should be issued in the name(s) of:

Illinois Agricultural Experiment Station

and ARS-USDA

November 4, 1985
(Date)

Don Holl
(Signature)